

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2001-NM-374-AD; Amendment 39-13411; AD 2003-26-12]**

**RIN 2120-AA64**

### **Airworthiness Directives; Boeing Model 737-600, 737-700, 737-800, 757-200, and 757-300 Series Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 737-600, 737-700, 737-800, 757-200, and 757-300 series airplanes, that requires replacing existing video distribution unit (VDU) connectors with new, improved connectors or new wire assemblies (jumpers), and performing related actions, as applicable. This action is necessary to prevent a short circuit in a VDU connector and consequent arcing and damage to wiring within the connector, which could result in damage to adjacent systems or structure and possible smoke or fire in the airplane cabin. This action is intended to address the identified unsafe condition.

**DATES:** Effective February 11, 2004.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of February 11, 2004.

**ADDRESSES:** The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Binh V. Tran, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6485; fax (425) 917-6590.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Boeing Model 737-600, 737-700, 737-800, 757-200, and 757-300 series airplanes was published in the Federal Register on December 10, 2002 (67 FR 75824). That action proposed to require replacing existing video distribution unit (VDU) connectors with new, improved connectors or new wire assemblies (jumpers), and performing related actions, as applicable.

## **Comments**

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received. Two commenters state that they are not affected by the proposed AD.

### **Request To Remove Parts Installation Requirement**

One commenter requests that the "Parts Installation" paragraph be removed from the proposed AD. The commenter states that it installed the VDU connectors with the subject connectors on its Model 737-800 series airplanes after delivery. Upon issuance of the proposed AD, the commenter contacted Matsushita, which stated that the problem is not caused by the connector, and that the information supplied by the airplane manufacturer is misleading and erroneous. Matsushita gave the commenter the following reasons for the cause of the unsafe condition addressed by the proposed AD: (1) A 90 degree angled backshell installed by the airplane manufacturer; (2) a 90 degree angled co-ax contact installed by the airplane manufacturer; and (3) lack of drip loop on the airplane manufacturer's installations. The commenter asserts that it has not experienced any problems identified in the proposed AD on any of its 36 Model 737-800 airplanes with the subject VDU connectors installed since December 1999.

The FAA does not agree to remove the "Parts Installation" paragraph. A failure analysis report, which we obtained from an independent lab, showed the failure of the connector, part number (P/N) CAMA11W1P, was caused by moisture entering the connector and causing the electrical short circuit between cavities 1 (115VAC) and 2 (ground). Moisture was able to penetrate the connector because the connector has no wire or facial seal. The two dielectric halves of the connector not being bonded together precipitated the failure, allowing moisture to be trapped between cavities 1 and 2. Therefore, we find moisture ingress to be the primary failure mode of the connector; however, we agree that the installation of 90 degree angled backshell and co-ax contact are contributing factors to that failure. We have determined that the connector should not be installed on any model airplane listed in the applicability of this AD. No change to this final rule is necessary in this regard.

### **Request To Clarify Parts Installation Requirement**

One commenter, the manufacturer of the connector, requests that the "Parts Installation" paragraph of the proposed AD be revised to read, "As of the effective date of this AD, no person shall install a VDU connector, part number CAMA11W1P, together with a 90 degree backshell or co-ax contact, on Model 737 or 757 series airplanes." The commenter asserts that this change will clarify that the intent of the proposed AD is not against the use of connector P/N CAMA11W1P on the VDU, but against the use of that connector in a particular application/configuration.

The commenter references certain statements in the "Explanation of Requirements of Proposed Rule" and "Differences Between Service Bulletin and Proposed AD" paragraphs of the proposed AD, and states that it is in 100 percent agreement with those key statements/goals. However, the commenter asserts that, as written, the proposed AD is not specific enough to accurately address the unsafe condition as defined. And, if issued as written, the proposed AD will inappropriately impact supplemental type certificates (STC), which have type designs that are in complete compliance with

the most current regulations, guidance materials, and intent—while providing no increase to operational safety. The reason the commenter supplies for these assertions is the airplane manufacturer's installation design/practices, because the type design data do not properly account for installation details. Without such details, like strain relief or drip loops, the commenter asserts the problem is worsened by the airplane manufacturer's use of a 90 degree co-ax contact on the connector (and in some cases the connector is oriented vertically), effectively channeling condensate directly into the connector. The commenter asserts that its STCs properly account for these detail requirements, to assure (by design) a repeatable installation for operational safety.

The commenter also points out that, on February 29, 2000, that the Civil Airworthiness Authority (CAA) for the United Kingdom, issued emergency airworthiness directive 005-02-2000 for the same connector and for identical reasons as listed in the proposed AD. After a detailed review with the airplane manufacturer and in coordination with the connector and VDU manufacturers, the CAA issued Revision 1 to its emergency AD on March 8, 2000, to specifically apply to " \* \* \* connectors P/N CAMA11W1P with a 90 degree co-ax contact \* \* \* ."

We do not agree to revise the "Parts Installation" paragraph. As previously stated, although the unsafe condition may be worsened when the connector is used in certain installation designs, we find the design of the connector itself to be the primary cause of the unsafe condition described in the AD. Therefore, it is our intent that the connector, P/N CAMA11W1P, should not be installed on any affected model airplane. No change to this final rule is necessary in this regard.

### **Request To Revise Parts Installation Compliance Time**

One commenter requests that the compliance time specified in the "Parts Installation" paragraph of the proposed AD be extended to give vendors additional time to develop a replacement plan for the connector. The commenter states that its Model 737 and 757 fleet is not equipped with video systems with the specified VDU connectors, and thus has no objection to the action required by paragraph (e) of the proposed AD. However, the commenter objects to using the effective date of the AD as the deadline for installing the connectors on any airplane type. The commenter gives no justification for the request or objection.

We do not agree. Once we have determined that an unsafe condition exists, our normal policy is not to allow that condition to be introduced into the fleet. In developing the technical information on which every AD is based, we consider the availability of spare parts that the AD will require to be installed. When we have determined that those (safe) parts are immediately available to operators, our policy prohibits installation of the unsafe parts after the effective date of the AD. We have confirmed that the manufacturer has developed and manufactured a replacement part that is available to operators for installation.

Additionally, the applicability of this AD affects only Model 737 and 757 series airplanes listed in the service bulletins referenced in the applicability of the AD. The "Parts Installation" paragraph does not apply to airplanes beyond those listed in the applicability of the AD. No change to the final rule is necessary in this regard.

### **Request To Add Language**

One commenter states that it has one airplane that has had the in-flight entertainment system removed, so it is not subject to the proposed AD. However, the commenter requests that the FAA revise the proposed AD to include language to address this situation.

We do not agree. The language in Note 1 of the proposed AD already contains language pertaining to "airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected. \* \* \*" As stated in that note, the commenter may request approval of an alternative method of compliance in accordance with paragraph (d) of this final rule. No change to this final rule is necessary in this regard.

## **Explanation of Change Made to Final Rule**

We have changed the service bulletin citations throughout this final rule to include references to Appendices A and B. That information was inadvertently omitted from the service bulletin citations listed in the proposed AD.

## **Conclusion**

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Changes to 14 CFR Part 39/Effect on the AD**

On July 10, 2002, the FAA issued a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs the FAA's airworthiness directives system. The regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance. However, for clarity and consistency in this final rule, we have retained the language of the NPRM regarding that material.

## **Increase in Labor Rate**

After the proposed rule was issued, we reviewed the figures we use to calculate the labor rate to do the required actions. To account for various inflationary costs in the airline industry, we find it appropriate to increase the labor rate used in these calculations from \$60 per work hour to \$65 per work hour. The economic impact information, below, has been revised to reflect this increase in the specified hourly labor rate.

## **Cost Impact**

There are approximately 280 airplanes of the affected design in the worldwide fleet. The FAA estimates that 28 airplanes of U.S. registry will be affected by this AD, that it will take approximately 16 work hours per airplane to accomplish the required connector replacement, and that the average labor rate is \$65 per work hour. Required parts will cost between \$334 and \$13,944 per airplane. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be between \$1,374 and \$14,984 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions. The manufacturer may cover the cost of replacement parts associated with this AD, subject to warranty conditions. Manufacturer warranty remedies may also be available for labor costs associated with this AD. As a result, the costs attributable to the AD may be less than stated above.

## **Regulatory Impact**

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. Section 39.13 is amended by adding the following new airworthiness directive:

# AIRWORTHINESS DIRECTIVE

Aircraft Certification Service  
Washington, DC



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "www.faa.gov"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2003-26-12 Boeing:** Amendment 39-13411. Docket 2001-NM-374-AD.

**Applicability:** Model 737-600, -700, and -800 series airplanes, as listed in Boeing Service Bulletin 737-23A1169, Revision 2, including Appendices A and B, dated June 21, 2001; Model 757-200 series airplanes, as listed in Boeing Alert Service Bulletin 757-23A0060, Revision 1, including Appendices A and B, dated January 11, 2001; and Model 757-300 series airplanes, as listed in Boeing Alert Service Bulletin 757-23A0061, Revision 1, including Appendices A and B, dated January 11, 2001; certificated in any category.

**Note 1:** This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

**Compliance:** Required as indicated, unless accomplished previously.

To prevent a short circuit in a video distribution unit (VDU) connector and consequent arcing and damage to wiring within the connector, which could result in damage to adjacent systems or structure and possible smoke or fire in the airplane cabin, accomplish the following:

## **Model 737-600, -700, and -800 Series Airplanes: Inspections and Follow-On Actions**

(a) For Model 737-600, -700, and -800 series airplanes: Within 18 months after the effective date of this AD, replace existing VDU connectors with new, improved connectors, and install a drip loop in the wiring at the new VDU connectors, per Part 2 of the Accomplishment Instructions of Boeing Service Bulletin 737-23A1169, Revision 2, including Appendices A and B, dated June 21, 2001.

## **Model 757-200 and -300 Series Airplanes: Inspections and Follow-on Actions**

(b) For Model 757-200 and -300 series airplanes: Within 18 months after the effective date of this AD, replace existing VDU connectors with new, improved connectors, or with new wire assemblies (jumpers), as applicable, per Part 2 of the Accomplishment Instructions of Boeing Alert Service Bulletin 757-23A0060, Revision 1, including Appendices A and B, dated January 11, 2001 (for Model 757-200 series airplanes); or Boeing Alert Service Bulletin 757-23A0061, Revision 1, including Appendices A and B, dated January 11, 2001 (for Model 757-300 series airplanes); as applicable.

## **Part Installation**

(c) As of the effective date of this AD, no person shall install a VDU connector, part number CAMA11W1P, on any airplane.

## **Alternative Methods of Compliance**

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

## **Special Flight Permits**

(e) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

## **Incorporation by Reference**

(f) The actions shall be done in accordance with Boeing Service Bulletin 737-23A1169, Revision 2, including Appendices A and B, dated June 21, 2001; Boeing Alert Service Bulletin 757-23A0060, Revision 1, including Appendices A and B, dated January 11, 2001; or Boeing Alert Service Bulletin 757-23A0061, Revision 1, including Appendices A and B, dated January 11, 2001; as applicable. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

## **Effective Date**

(g) This amendment becomes effective on February 11, 2004.

Issued in Renton, Washington, on December 23, 2003.

Ali Bahrami,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 04-33 Filed 1-6-04; 8:45 am]

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